What is claimed is:

1.   A wireless communication system comprising an access point device in communication with a back end device, wherein the access point device and
5   the back end device work in conjunction to implement a plurality of protocol layers of a wireless communication protocol for enabling communication between a terminal equipment device and a host device.

2.   The wireless communication system of claim 1, wherein:
10   the plurality of protocol layers of the wireless communication protocol comprise a lower protocol layer for sending and receiving protocol messages over a wireless medium and upper protocol layers for generating and processing the protocol messages;
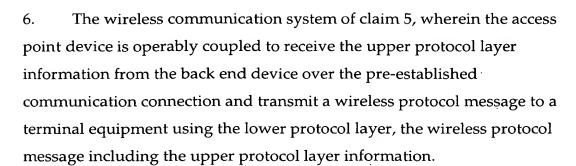   the access point device implements the lower protocol layer; and
15   the back end device implements the upper protocol layers.

3.   The wireless communication system of claim 2, wherein the access point device is operably coupled to receive a wireless protocol message from a terminal equipment using the lower protocol layer and forward upper
20   protocol layer information from the wireless protocol message to the back end device over a pre-established communication connection.

4.   The wireless communication system of claim 3, wherein the back end device is operably coupled to receive the upper protocol layer information
25   from the access point device over the pre-established communication connection and process the upper protocol layer information.

5.   The wireless communication system of claim 2, wherein the back end device is operably coupled to send upper protocol layer information to the
30   access point device over a pre-established communication connection.

6.   The wireless communication system of claim 5, wherein the access point device is operably coupled to receive the upper protocol layer information from the back end device over the pre-established communication connection and transmit a wireless protocol message to a
5   terminal equipment using the lower protocol layer, the wireless protocol message including the upper protocol layer information.
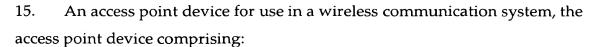
7.   The wireless communication system of claim 2, wherein the wireless communication protocol comprises a Bluetooth wireless communication
10   protocol, and wherein the access point device comprises baseband transceiver logic and associated HCI firmware for implementing the lower protocol layer of the Bluetooth wireless communication protocol.

8.   The wireless communication system of claim 7, wherein the back end
15   device comprises logic for implementing the upper protocol layers of the Bluetooth wireless communication protocol.

9.   The wireless communication system of claim 8, wherein the back end device further comprises logic for implementing additional state-based
20   services.

10.   The wireless communication system of claim 2, wherein the access point device and the back end device are operably coupled to exchange upper protocol layer information over a pre-established communication connection.
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11.   The wireless communication system of claim 10, wherein the access point device comprises logic for establishing the communication connection to the back end device.

30   12.   The wireless communication system of claim 10, wherein the back end device comprises logic for establishing the communication connection to the access point device.

13.   The wireless communication system of claim 10, wherein the access
point device and the back end device communicate over a local area network,
and wherein the pre-established communication connection is a logical
connection over the local area network.

14.   The wireless communication system of claim 13, wherein the local area
network is an Ethernet local area network, and wherein the pre-established
communication connection is a PPP-over-Ethernet connection.

15.   An access point device for use in a wireless communication system, the access point device comprising:

a wireless interface implementing a lower protocol layer of a wireless communication protocol for sending and receiving wireless communication
5   messages;

a back end interface for communicating with a back end device that implements upper protocol layers of the wireless communication protocol; and

forwarding logic operably coupled to receive upper protocol layer
10   information over one of said wireless interface and said back end interface and forward the upper protocol layer information over the other of said wireless interface and said back end interface.

16.   The access point device of claim 15, wherein the forwarding logic is
15   operably coupled to receive over the wireless interface a wireless communication message including the upper protocol layer information and forward over the back end interface a communication message including the upper protocol layer information.

20   17.   The access point device of claim 16, wherein the communication message forwarded over the back end interface comprises a PPP/PPPoE communication message including the upper protocol layer information.

18.   The access point device of claim 15, wherein the forwarding logic is
25   operably coupled to receive over the back end interface a communication message including the upper protocol layer information and forward over the wireless interface a wireless communication message including the upper protocol layer information.

30   19.   The access point device of claim 18, wherein the communication message received over the back end interface comprises a PPP/PPPoE communication message including the upper protocol layer information.

20.   The access point device of claim 15, wherein the wireless communication protocol comprises a Bluetooth wireless communication protocol.

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21.   The access point device of claim 20, wherein the lower protocol layer comprises a Bluetooth lower protocol layer.

22.   The access point device of claim 20, wherein the upper protocol layers

10   comprise a Bluetooth upper protocol layer.

23.   A computer program for operating an access point device in a wireless communication system, the computer program comprising:

wireless interface logic implementing a lower protocol layer of a wireless communication protocol for sending and receiving wireless communication messages over a wireless interface;

back end interface logic for communicating with a back end device that implements upper protocol layers of the wireless communication protocol; and

forwarding logic programmed to receive upper protocol layer information using one of said wireless interface logic and said back end interface logic and forward the upper protocol layer information using the other of said wireless interface logic and said back end interface logic.

24.   The computer program of claim 23, wherein the forwarding logic is programmed to receive over the wireless interface using the wireless interface logic a wireless communication message including the upper protocol layer information and forward over the back end interface using the back end interface logic a communication message including the upper protocol layer information.

25.   The computer program of claim 24, wherein the communication message forwarded over the back end interface comprises a PPP/PPPoE communication message including the upper protocol layer information.

26.   The computer program of claim 23, wherein the forwarding logic is programmed to receive over the back end interface using the back end interface logic a communication message including the upper protocol layer information and forward over the wireless interface using the wireless interface logic a wireless communication message including the upper protocol layer information.

27.   The computer program of claim 26, wherein the communication message received over the back end interface comprises a PPP/PPPoE communication message including the upper protocol layer information.

5   28.   The computer program of claim 23, wherein the wireless communication protocol comprises a Bluetooth wireless communication protocol.

29.   The computer program of claim 28, wherein the lower protocol layer comprises a Bluetooth lower protocol layer.

10   comprises a Bluetooth lower protocol layer.

30.   The computer program of claim 28, wherein the upper protocol layers comprise a Bluetooth upper protocol layer.

31.   A back end device for use in a wireless communication system, the back end device comprising:

   upper protocol layer logic implementing upper protocol layers of a wireless communication protocol; and

5   an access point interface for exchanging upper protocol layer information with an access point device that implements a lower protocol layer of the wireless communication protocol.

32.   The back end device of claim 31, wherein the upper protocol layer logic

10   is operably coupled to receive over the access point interface a communication message including upper protocol layer information and process the upper protocol layer information.

33.   The back end device of claim 32, wherein the communication message

15   received over the access point interface comprises a PPP/PPPoE communication message including the upper protocol layer information.

34.   The back end device of claim 31, wherein the upper protocol layer logic is operably coupled to send over the access point interface a communication

20   message including upper protocol layer information.

35.   The back end device of claim 34, wherein the communication message sent over the access point interface comprises a PPP/PPPoE communication message including the upper protocol layer information.

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36.   The back end device of claim 31, wherein the wireless communication protocol comprises a Bluetooth wireless communication protocol.

37.   The back end device of claim 36, wherein the lower protocol layer

30   comprises a Bluetooth lower protocol layer.

38. The back end device of claim 36, wherein the upper protocol layers comprise a Bluetooth upper protocol layer.

39.   A computer program for operating a back end device in a wireless communication system, the computer program comprising:

upper protocol layer logic implementing upper protocol layers of a wireless communication protocol; and

5   access point interface logic for exchanging upper protocol layer information with an access point device that implements a lower protocol layer of the wireless communication protocol over an access point interface.

40.   The computer program of claim 39, wherein the upper protocol layer
10   logic is programmed to receive over the access point interface using the access point interface logic a communication message including upper protocol layer information and process the upper protocol layer information.

41.   The computer program of claim 40, wherein the communication
15   message received over the access point interface using the access point interface logic comprises a PPP/PPPoE communication message including the upper protocol layer information.

42.   The computer program of claim 39, wherein the upper protocol layer
20   logic is programmed to send over the access point interface using the access point interface logic a communication message including upper protocol layer information.

43.   The computer program of claim 42, wherein the communication
25   message sent over the access point interface using the access point interface logic comprises a PPP/PPPoE communication message including the upper protocol layer information.

44.   The computer program of claim 39, wherein the wireless
30   communication protocol comprises a Bluetooth wireless communication protocol.

45.   The computer program of claim 44, wherein the lower protocol layer comprises a Bluetooth lower protocol layer.

46.   The computer program of claim 44, wherein the upper protocol layers comprise a Bluetooth upper protocol layer.

47.   A communication message comprising upper protocol layer information from a wireless communication protocol encapsulated within a link layer packet for transmission over a pre-established communication connection between an access point device and a back end device in a wireless
5   communication system.

48.   The communication message of claim 47, wherein the wireless communication protocol comprises a Bluetooth wireless communication protocol.

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49.   The communication message of claim 47, wherein the pre-established communication connection between the access point device and the back end device comprises a PPP connection, and wherein the link layer packet comprises a PPP packet including the upper protocol layer information from
15   the wireless communication protocol.